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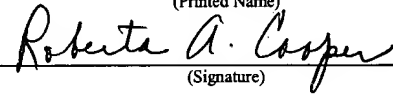
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Atty. Dkt. No. 035451-0198 (3550.Palm)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Applicant: Osborn et al.
Title: CONTROL OF COLOR DEPTH
IN A COMPUTING DEVICE
Appl. No.: 09/726,831
Filing Date: 11/30/2000
Examiner: Quillen, Allen E.
Art Unit: 2676

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Roberta A. Cooper (Printed Name)	
 (Signature)	

REPLY BRIEF UNDER 37 C.F.R. § 41.41

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Transmitted herewith is the following document for the above-identified application.

[X] Reply Brief Under 37 C.F.R. § 41.41. (7 pages)

Respectfully submitted,

Date 3/30/2006

By Chad E. Bement

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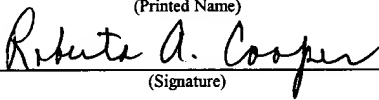
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Sir:

In reply to the January 31, 2006 Examiner's Answer to Appellants' Appeal Brief (hereinafter referred to as the "Examiner's Answer"), the following additional remarks are submitted.

REMARKS

The Examiner's Answer includes the following response to Appellants' arguments in section 7(III)(B) of Appellants' Appeal Brief:

Appellant argues that there is no suggestion to combine the teachings of Crocker et al., Nale, and Reddy ... Well, it is well known that the advantages provide from the combination of prior art is considered one of the reasons and motivations to combine the prior art. For example, all three prior art of Crocker, Nale, and Reddy teaches the advantages of their invention over the prior art system. Furthermore, Reddy teaches various alternatives to the embodiment of the invention, for example, for small display size, you only need a single internal memory (Fig. 4) and for larger display size or other reasons requires large memory, you can have a combination of internal and external memories all based on the prior art Fig. 1 where there is only a single external memory to the graphics controller. Similar prior art figures also show in figure one of Crocker with an external memory 6 to the graphics controller 5 and Nale also teaches "memory size is typically provided by two separate memories: a system memory for use by the CPU and a memory for use by the graphics controller" (col. 1, lines 16-19).

Appellants submit that the Examiner has still not shown any suggestion or motivation for utilizing the on-chip and off-chip memory of Reddy for color and resolution display modes. As admitted by the Examiner (see page 4 of the Examiner's Answer), neither Crocker et al. nor Nale teach or suggest an internal and external memory, much less an internal and external memory that is configured in accordance with the subject matter of claims 1, 15, and 22. As to Reddy, it does not describe or suggest the use of the off-chip and on-chip memory to accommodate color and resolution display modes. Rather, the on-chip and off-chip memory of Reddy appears to be utilized for the use of fast moving portions and to accommodate different CRT sizes, which is not a teaching or suggestion of the use of internal and external memory configurations for color and resolution display modes. Furthermore, the Examiner has not shown, expressly or impliedly from the cited references, or drawn from a convincing line of reasoning that any advantages

mentioned in Reddy would be produced by combining Reddy with Crocker et al. and Nale in a way that provides the subject matter of claim 1, 15, or 22.

The Examiner's Answer further includes the following response to Appellants' arguments in section 7(III)(B) of Appellants' Appeal Brief:

In response to applicant's argument the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). In this case, all three references, Crocker, Nale, Reddy teaches or suggests it is a conventional or at least known system that a separate external memory can be coupled to the graphics controller. Therefore, to modify the shared memory architecture of Crocker and Nale is considered within the level of ordinary skill in the art because the system is considered as a conventional system.

Appellants submit that the Examiner has not properly established the conclusion that modifying the shared memory structure of Crocker et al. and Nale to somehow arrive at the subject matter of claim 1, 15, or 22 is conventional. As admitted by the Examiner, Crocker et al. and Nale do not at all suggest to couple a separate external memory to a graphics controller already having an internal memory, and thus do not suggest that it is conventional to do so. As to Reddy, it does not describe or suggest the use of the off-chip and on-chip memory to accommodate color and resolution display modes, and the Examiner has not shown that to do so would be merely conventional.

The Examiner's Answer further includes the following response to Appellants' arguments in section 7(III)(B) of Appellants' Appeal Brief:

Appellants further argue "Crocker teaches away from the teachings of Reddy". The examiner disagrees because Crocker also teaches

or suggests, it is well known in the art a separate frame buffer can be coupled to the graphics controller (Fig. 1) and Reddy also teaches based on the prior art fig. 1, you can be obtained the claimed internal and external memory based on at least from different display size (Figs. 2 and 4; col. 3, lines 1-5, 23-27 and col. 5, lines 24-33).

Appellants submit that Crocker et al., when viewed as a whole, clearly teaches away from Reddy's design in his invention as argued in Appellants' Appeal Brief.

The Examiner's Answer further includes the following response to Appellants' arguments in section 7(III)(B) of Appellants' Appeal Brief:

Appellants further argue that the proposed combination of teachings of Reddy with those of Crocker would also change the principle of Crocker by avoiding the added cost of additional dedicated memory. Well, it is true that additional memory adds additional cost. However, that further proves a point of obviousness to one of ordinary skill in the art because as long as the cost is not an issue, one of ordinary skill in the art would have known how to modify from one system (shared memory to save cost) to another (separate memories if cost is not a factor and normally proves better performance with dedicated graphics memory, such as prior art fig. 1).

Appellants first submit that, as stated in the Appeal Brief, to modify the device of Crocker et al. to include the on-chip DRAM frame buffer 112 and off-chip DRAM frame buffer 114 would clearly require a substantial and unnecessary redesign of the device of Crocker et al. and would change the principle of operation under which the architecture of Crocker et al. was designed to operate (i.e., a single shared memory device to provide a both a frame buffer and system memory available to the operating system). The Crocker et al. architecture as a whole is designed in principle to provide a flexible memory space in a shared memory device to avoid the need for an additional external memory. Thus, even if cost were not an issue, one of ordinary skill in the art would not be motivated to make such a substantial and unnecessary modification to the architecture of Crocker et al.

Appellants further disagree with the Examiner's statement that "as long as the cost is not an issue, one of ordinary skill in the art would have known how to modify from one system (shared memory to save cost) to another (separate memories if cost is not a factor ...)."

Appellants submit that the Examiner has mischaracterized both the teaching of Crocker et al. and Appellants' arguments in the Appeal Brief regarding the principle of operation of Crocker et al. Appellants have not argued that the principle of operation is to avoid cost. As stated above, the Crocker et al. architecture as a whole is designed in principle to provide a flexible memory space in a shared memory device to avoid the need for an additional external memory. Thus, even if cost were not an issue, one of ordinary skill in the art would not be motivated to make the substantial and unnecessary modification to the architecture of Crocker et al. to include features of Reddy. Furthermore, as argued above, Crocker et al. and Nale do not at all suggest coupling a separate external memory to a graphics controller already having an internal memory, and Reddy does not describe or suggest the use of the off-chip and on-chip memory to accommodate color and resolution display modes.

The Examiner's Answer further includes the following response to Appellants' arguments in section 7(III)(B) of Appellants' Appeal Brief:

Appellants argue that the proposed motivations for combining the teachings of Reddy with those of Crocker and Nale (i.e., speed and power savings) would not motivate one of ordinary skill in the art to use an off-chip/on chip structure of Reddy. Rather one of ordinary skill in the art would be motivated one to simply use an entirely on-chip structure to obtain speed and power savings. Well, only if that person wants to obtain speed and power savings. In Reddy's case, Reddy also wants to allow simultaneous access to both on-chip and off-chip DRAM while maintaining the flexibility to increase the display memory size externally to meet a variety of display size requirement (col. 3, lines 1-5).

The Examiner thus admits that his purported speed and power savings motivations would not motivate one of ordinary skill in the art to use an off-chip/on chip structure of Reddy. As to the Examiner's additionally cited motivation from Reddy, (i.e., "to allow simultaneous access to

both on-chip and off-chip DRAM while maintaining the flexibility to increase the display memory size externally to meet a variety of display size requirement”), Applicants’ remarks above and in the Appeal Brief remain applicable.

Therefore, it is respectfully submitted that the Examiner has failed to establish a prima facie case of obviousness because there is no suggestion or motivation to combine the teachings of Crocker et al., Nale, and Reddy, and that the rejection of claims 1, 15, and 22 should be reversed.

Claims 2-13 depend from independent claim 1, claims 16-21 depend from independent claim 15, and claims 23-30 depend from claim 22 and are therefore patentable for at least the same reasons as discussed above. See 35 U.S.C. § 112 ¶ 4.

CONCLUSION

In view of the foregoing, as well as in view of the Argument set forth in Appellants’ Appeal Brief, Appellants submit that claims 1-13 and 15-30 are not properly rejected under 35 U.S.C. § 103(a) as being unpatentable over Crocker et al., Nale, and Reddy and are therefore patentable. Accordingly, Appellants respectfully request that the Board reverse all claim rejections and indicate that a notice of allowance respecting all pending claims should be issued.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 06-1447.

Should no proper payment be enclosed herewith, as by the credit card payment form being unsigned, providing incorrect information resulting in a rejected credit card transaction, or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 06-1447.

Respectfully submitted,

Date 3/30/2006

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